FASTLANE FY2016
GRANT APPLICATION

RECONSTRUCTION OF I-44/US-75 INTERCHANGE BRIDGES AND RELATED IMPROVEMENTS ON I-44

CITY OF TULSA, OKLAHOMA

Supporting information can be found at:

US-75 & I-44 Tulsa County FASTLANE

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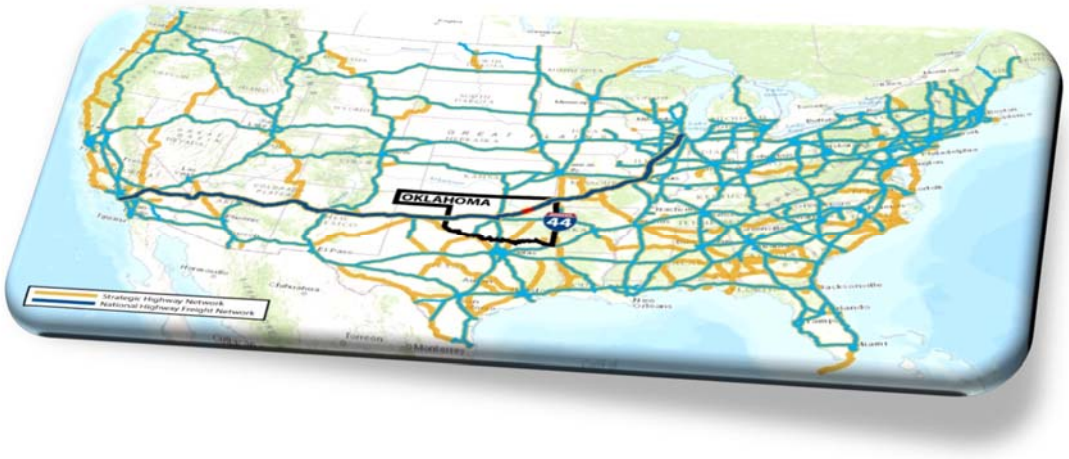

Previously Incurred Project Cost:	$542,580
Future Eligible Project Cost:	$109,228,040
Total Project Cost:	$109,770,620
NSFHP Request:	$63,829,200
Total Federal Funds (including NSFHP)	$87,382,430
Matching funds restricted to specific project component?	NO

Project on NHFN? Yes/No	YES
Project on NHS? Yes/No	YES
Project to add Interstate capacity? Yes/No	YES
Project in national scenic area? Yes/No	NO
Rail grade crossing or separation included?	NO
Intermodal or freight rail project, or freight project within freight rail, water, or intermodal facility?	NO
If yes, specify:	NA
NSFHP $ to be spent on above two items:	NA

State: Oklahoma

Begin: Lat/Long: 36˚5'20.40"N / 96˚01'50.17"W	
End: Lat/Long: 36˚5'23.40"N/ 95˚59'36.12"W	
Size of project:	Large
Submitting TIGER project?	No
Urbanized Area (UA):	Tulsa
UA population, 2015	686,033

Inclusion in Planning Documents:	
TIP:	NO
STIP:	NO
MPO LRTP:	YES
State LRTP:	YES
State Freight Plan:	NA

Oklahoma Department of Transportation

Submitted by: Oklahoma Department of Transportation

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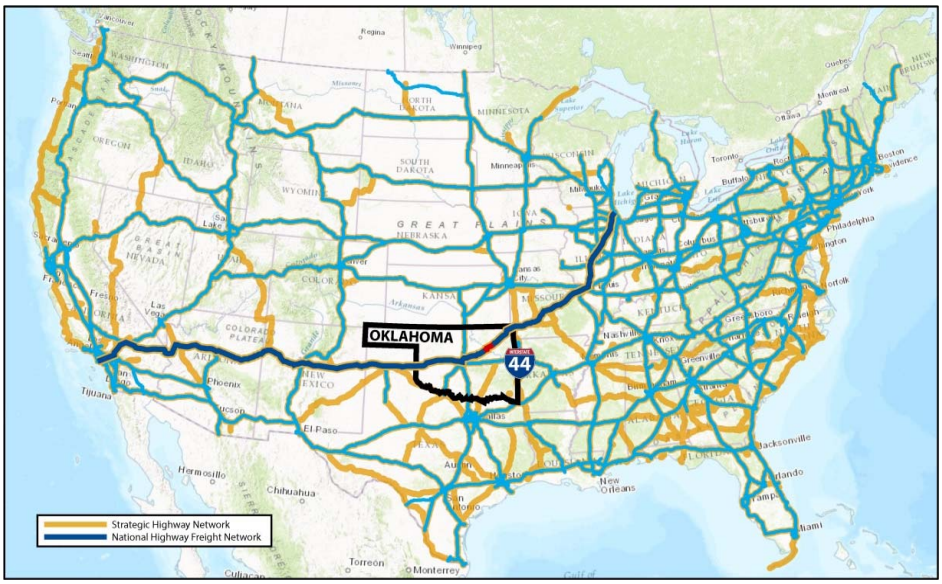
1.0 PROJECT DESCRIPTION

Currently, I-44 in Tulsa, between- I-244 and the Arkansas River, is a four-lane divided highway. This portion of I-44 is one of the oldest and earliest sections of interstate in Oklahoma and has not been upgraded since it was constructed in the Eisenhower years (see **Figure 1**). Due to increasing congestion levels and the state of repair of the related infrastructure, the Oklahoma Department of Transportation (ODOT) is requesting $63,829,200 in FASTLANE funds to assist with the total project cost of $109,770,620 for the I-44/US-75 interchange improvements project.

FIGURE 1: I-44 Map



This particular project is part of a longer-term, larger effort to improve the I-44 corridor in west Tulsa. The entire two and one-half mile segment from I-244 to the Arkansas River will eventually be completely reconstructed to meet the demands of growing intra- and interstate freight demands, address significant safety issues, and upgrade to current interstate standards. However, it is necessary to proceed in phases. Thus, the critical project that is the subject of this application is as described below.

The project includes **the reconstruction of approximately one mile of I-44, from the I-44/Union Avenue** grade separation to the Arkansas River. The project will **widen I-44 from four through lanes to six through lanes**. The project will also include spot improvements along this corridor to facilitate the ultimate configuration of I-44. These improvements include **the replacement of the bridges on I-44 over 33rd W. Avenue, the bridge on Union Avenue over I-44, and the bridges on US-75 over I-44** (see **Figure 2** on next page). All of this work is anticipated to be constructed **within existing right-of-way**, except for some minor acquisitions at the I-44 and Union Avenue grade separation. The project will include **a new median barrier with pier protection for safety** where I-44 runs under Union Avenue and US-75. All bridge replacements will include new bridge rail. **Barrier walls will be installed** in lieu of guardrail and cable barriers. Currently, there is no shoulder and the barrier walls are insufficient.

The FASTLANE project scope includes the replacement of two bridges at 33rd W. Avenue, one bridge at Union Avenue, and two bridges at the US-75/I-44 interchange - all are rated STRUCTURALLY DEFICIENT or FUNCTIONALLY OBSOLETE. The one-mile segment between Union Avenue and the Arkansas River will be widened to six lanes.

FIGURE 2. Bridge on Union Avenue over I-44 from 1952 - Functionally Obsolete

Tulsa County – in particular, the cities of Tulsa, Jenks, and Glenpool – is experiencing tremendous growth through residential and commercial development. This growth has resulted in traffic congestion, impaired accessibility to the transportation system, and limited mobility of motorists. The Arkansas River, while initially serving the area as a primary means to move refined oil via river barges, has increasingly become a barrier to the transportation system as oil and gas products are predominantly carried by tanker trucks; and there are a limited number of suitable highway crossings as the river traverses the Cities of Tulsa, Jenks, and Glenpool. I-44 currently carries close to 84,000 vehicles per day, with approximately 13% trucks. Given the current typical section on I-44, the system of adjacent collector/distributor roads, and US-75 ramps that all have access to I-44 in the project limits, congestion is related to capacity as well as to the operations of all of these closely spaced access points.

For US-75 to meet current design standards, improvements are needed to the existing interchanges, and new interchanges are required at some locations. Additional travel lanes are needed to accommodate future traffic levels. The project that is the subject of this FASTLANE request, as a first piece of the ultimate improvements for the I-44 corridor, will provide for a safer and more efficient transportation system.

2.0 PROJECT LOCATION

The proposed project is within the Tulsa urbanized area and the Tulsa Transportation Management Area (TMA) as shown in **Figure 3**. It is located within the I-44 corridor, a portion of the Primary Highway Freight Network, from its intersection with I-244 extending east approximately two and one-half miles to the Arkansas River (see **Figure 4**). The project's extents are between 33rd W. Avenue and the Arkansas River. Bridge improvements are planned at 33rd W. Avenue, Union Avenue, and at the I-44/US-75 interchange. The interstate will be widened from Union Avenue to the Arkansas River.

Project Beginning:
36° 5'20.11"N; 96° 1'46.43"W

Project Ending Point:
36° 5'23.53"N; 95°59'34.83"W

Urbanized Area:
Tulsa, OK (pop. 686,033)

FIGURE 3: Tulsa Transportation Management Area (TMA)

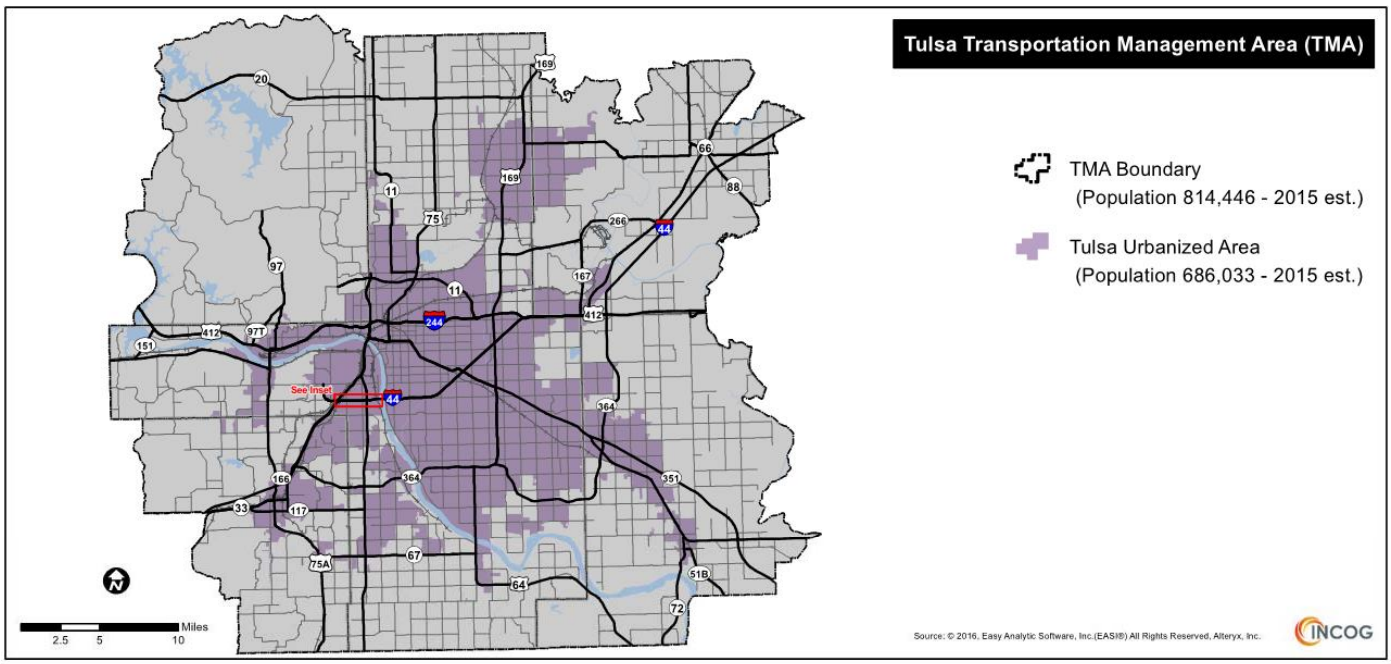
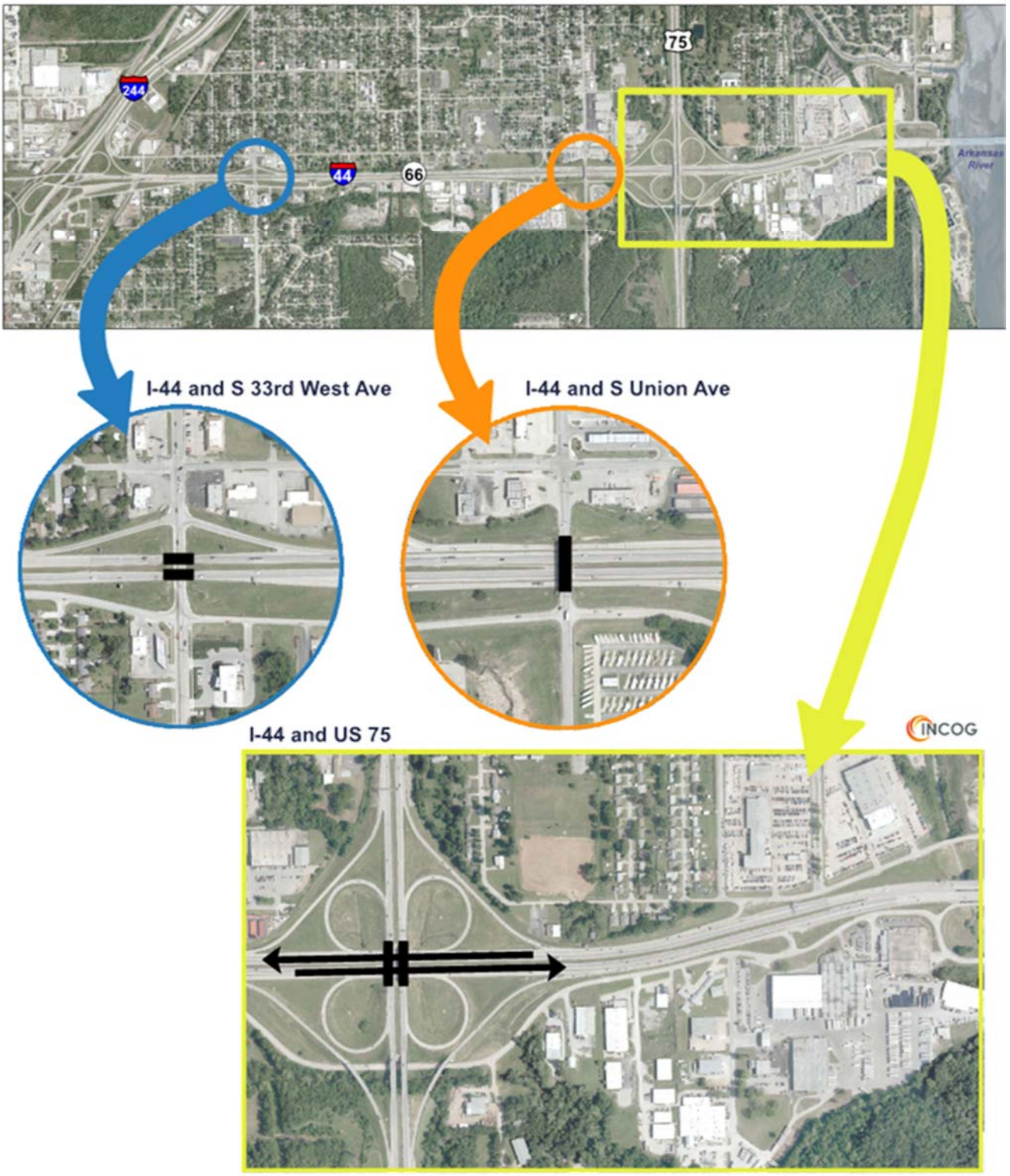


FIGURE 4: Project Elements Map



3.0 PROJECT PARTIES

The Oklahoma Department of Transportation (ODOT) is the project sponsor. ODOT is coordinating the project with the Indian Nations Council of Governments (INCOG), the City of Tulsa, and Tulsa County.

4.0 GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

The I-44/US-75 Improvements project is a true partnership, using State and Federal funds as shown in **Table 1** below.

4.1 Future Eligible Cost

The future eligible cost for the I-44/US-75 Improvements project is $109,228,000.

4.2 Availability and Commitment of all Committed and Expected Funding Sources and Uses of all Project Funds

The availability and commitment of funding sources are presented in **Table 1**.

4.3 Federal Funds Already Provided and Required Matching Funds for Those Funds

Federal funds pre-incurred for this project total $434,060. ODOT anticipates using its share of federal appropriations, amounting to $23,533,230, in addition to $21,845,610 of state funds as match.

TABLE 1: Sources and Uses of Funds

	SOURCES OF FUNDS (IN $1,000S)						
	State Funds		Federal Funds		FASTLANE Funds	Future Eligible Costs	Total Project Cost
USES OF FUNDS	Previously Incurred	Future	Previously Incurred	Future			
Environmental and Engineering	108.52	525.61	434.06	2,102.43		2,628.04	3,170.62
ROW and Utilities		43.60		174.40		218.00	218.00
Construction		20,000.00		20,000.00	60,000.00	100,000.00	100,000.00
Contingency and Other		1,276.40		1,276.40	3,829.20	6,382.00	6,382.00
TOTAL	108.52	21,845.61	434.06	23,553.23	63,829.20	109,228.04	109,770.62

4.4 Detailed Budget

Cost estimates were developed by the project engineer based on estimated quantities and similar projects constructed in the State of Oklahoma during FY 2015-2016. A pre-construction and construction schedule, and detailed cost estimate are included as a part of the application attachments. (See US-75 & I-44 Tulsa County FASTLANE Reports and Technical Information.) A summary of the project costs is presented in **Table 2**.

TABLE 2: Summary of Project Costs

Project Component	Cost ($1,000s)
Engineering and Environmental	3,170
Right of Way and Utilities	218
Construction	
▪ Bridges at Union Ave and 33rd Avenue West	25,000
▪ Bridges at I-44/US-75 Interchanges	50,000
▪ Widening I-44, Union Avenue to River	25,000
▪ Contingency	6,382
Total	**109,770**

4.5 Amount of Requested NSFHP Funds

ODOT is requesting $63,829,200 in NSFHP (FASTLANE grant) funds for this project. ODOT is matching these requested funds with $21,845,610 in state funds, or 20% of the total future project cost.

5.0 COST-EFFECTIVENESS

The cost effectiveness of the improvements described in this application was measured through a complete Benefit-Cost Analysis (BCA) to monetize, as thoroughly as possible, benefits generated under each one of the merit criteria defined in the FASTLANE program. A 20-year period of analysis was used in the estimation of the project's benefits and costs. The analysis shows that the project is net beneficial to the nation's economy. See the Reports and Technical Information section at US-75 & I-44 Tulsa County FASTLANE for the BCA Document.

Table 3 below summarizes the monetization of the main benefits for the proposed improvements, categorized under the main criteria established in the FASTLANE program.

TABLE 3: Benefit Estimates by Merit Criteria ($millions), 20-year Analysis Period (2023-2042)

Merit Criteria	Benefit categories	7% Discount Rate	3% Discount Rate
Economic	Travel Time Savings	$368,280,191	$601,346,996
	Vehicle Operating Cost Savings	-$52,012,456	-$79,644,910
Safety	Accident Cost Reduction	$88,748,058	$159,198,921
Community and Environmental	Emissions Cost Reduction	$4,516,979	$6,960,140
Total Benefit Estimates		**$409,532,771**	**$687,861,147**

The largest benefits accrue in the travel-time category, totaling $368.3 million when discounted at 7 percent. Safety benefits are the second largest category of benefits, totaling $88.7 million when discounted at 7 percent. Net vehicle operating costs increase due to the additional roadway traffic induced due to the additional available capacity. Net over the 20-year period of the analysis, emission cost reductions increase slightly.

LARGEST PROJECT BENEFITS

1st

$368.3M in travel time savings

2nd

$88.7M in safety benefits

Considering all monetized benefits and costs, the estimated internal rate of return of the project is 24.8 percent. With a 7 percent real discount rate, the $103.1 million investment would result in $409.5 million in total benefits, a Net Present Value of $306.5 million, and a Benefit/Cost ratio of approximately 3.97. With a 3 percent real discount rate, the Net Present Value of the project would increase to $580.7 million, for a Benefit/Cost ratio of 6.42.

Table 4 summarizes these results.

TABLE 4: Overall Results of the Benefit-Cost Analysis

(Dollar figures are in millions of 2015 dollars)

Project Evaluation Metric	7% Discount Rate	3% Discount Rate
Total Discounted Benefits	$409.5	$687.9
Total Discounted Costs	$103.1	$107.2
Net Present Value	$306.5	$580.7
Benefit Cost Ratio	3.97	6.42
Internal Rate of Return (%)	24.81%	
Payback Period (Years)	3 years	

3.97

Benefit/cost ratio

at the 7% discount rate

6.42

Benefit/cost ratio

at the 3% discount rate

6.0 PROJECT READINESS

ODOT has extensive experience with large capital projects of many types carried out by its Engineering Department and subcontracted engineering firms. ODOT has been completing similar improvement projects along other sections of I-44 over the past ten years. ODOT has completed the preliminary engineering and environmental reviews to enable the start of this project immediately upon receipt of the FASTLANE award. There are projects currently underway for design and environmental clearance of the 33rd Avenue, Union Avenue, and US-75 bridges. ODOT intends to use internal forces to design the approximately 1 mile of widening of I-44 from Union Avenue to the Arkansas River, which can be accomplished in an accelerated timeframe.

6.1 Technical Feasibility

This project addresses a substandard interchange at the convergence of US-75 and I-44 in west Tulsa, and begins the vital reconstruction of a segment of vintage 1952 interstate segment in west Tulsa. The project also provides improved mobility and connectivity for truck traffic traveling through Oklahoma and to the Great Plains or to western states. ODOT has completed several similar projects on other segments of I-44, including the completion of a mirror project on the east side of the Arkansas River, I-44 from Riverside to Yale. This project was a major undertaking lasting 6 years involving reconstruction of 4.25 miles of urban interstate including 4 grade separations – all done under traffic. The project is designed in accordance with all AASHTO standards.

6.2 Project Schedule

A project schedule is presented in **Figure 5**. The figure includes all major milestones. A summary of schedule highlights is shown in **Table 5**. A detailed schedule is available in the Reports and Technical Information section at US-75 & I-44 Tulsa County FASTLANE.

FIGURE 5: Project Schedule

		2018				2019				2020				2021				2022			
Task Name	**Start/End**	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Design Completion	Nov 2018																				
Right of way acquisition & utility relocation	Feb 2019																				
Approval of Plans, Specification & Estimate (PS&E)	Dec 2018																				
Procurement / Obligation	Dec 2018																				
State & Local Approvals	Apr 2018																				
Project partnership & Implementation Agreements	Jun 2018																				
Construction	Jun 2019 Jul 2022																				

TABLE 5: Summary of Schedule Highlights

Project Activity	Date
▪ NEPA and environmental reviews and approvals	
– Re-evaluation of Interchange	Begin: March 2016; Complete: Sep. 2017
– Environmental on remainder of I-44 project	Begin: April 2016; Complete: Sep. 2017
▪ Design completion	November 2018
▪ Right of way acquisition & utility relocation	February 2019
▪ Approval of plans, specification and estimate (PS&E)	December 2018
▪ Procurement/obligation	December 2018
▪ State and local approvals	April 2018
▪ Project partnership & implementation agreements	June 2018
▪ Construction	Begin: June 2019; Complete: July 2022

The project schedule shows that grant funds can be obligated by December 2018, well before the statutory deadline. Even if there are unexpected delays, the funds will not be at risk of expiring before they are obligated. Similarly, the project will be able to begin construction by June 2019 and estimated completion date is July 2022, again meeting the deadlines with plenty of margin. All property and right of way acquisition will be completed in a timely manner and in accordance with federal regulations.

6.3 Required Approvals

The Oklahoma Department of Transportation (ODOT) is serving as the primary sponsor of this application. The project will occur almost entirely on land owned by ODOT. As a result, NEPA requirements are expected to be minimal, and ODOT has already completed initial environmental investigations for the activities the project will entail. Environmental and permitting work carried out to date for the project is detailed in the following sections.

6.3.1 Environmental Permits and Reviews

The environmental studies (research including but not limited to topics such as: air quality, biology, cultural resources, hazardous materials, noise, socioeconomic data, and wetlands) have been initiated by ODOT as of March 2016 (see **Table 6**). As a part of this process, ODOT's Environmental Programs Division will coordinate with other applicable state and federal agencies, and conduct community outreach and meetings as required.

An Environmental Assessment for the I-44/US-75 Interchange (See US-75 & I-44 Tulsa County FASTLANE Reports and Technical Information) was approved by FHWA in 2002; a reevaluation of that EA will be completed. A Categorical Exclusion (CE) is the anticipated environmental action for the remainder of the project. Reconnaissance level environmental information has been collected and applied to the analysis of alternatives for the 33rd W. Avenue and Union Avenue bridges.

The public has been involved in this project in various ways including participating in the development of the Environmental Assessment in 2002, endorsing the City of Tulsa's efforts to invest in its transportation system

(*Improve our Tulsa* initiative, was passed by voters in 2014), and engaging with the Indian Nations Council of Governments (INCOG).

ODOT has coordinated with several agencies with jurisdiction and local governments in support of the project. The 2002 US-75 EA included coordination with federal and state resource agencies, Indian Tribes, and local entities. To date, none of the agencies consulted have identified potential issues of significance with the project. The US Fish and Wildlife Service and the Oklahoma State Historic Preservation Officer have not identified species habitat or significant historic properties in the project area. It is anticipated that remaining environmental clearances and permits will be obtained quickly.

TABLE 6: Agency Coordination to Date

Comments Received	Agency
Information about of tribal property provided	Muscogee(Creek) Nation
Tribes and tribal towns contacted	US Department of Interior Bureau of Indian Affairs
Project does not involve any threatened or endangered species habitat.	US Department of Interior Fish and Wildlife Service
No effects on historic properties.	Oklahoma Historical Society/Oklahoma Archaeological Survey
Project unlikely to affect threatened and endangered species.	Oklahoma Department of Wildlife Conservation
R. L. Jones airport located in project vicinity.	Oklahoma Aeronautics & Space Commission
No impacts noted	US Department of Interior Bureau of Land Management
No negative social, environmental, or economic impacts expected	Eastern Oklahoma Development District
Determined that proposed project will not result in adverse impact on prime farmland.	US Department of Agriculture

6.3.2 State and Local Approvals

Support for the project by state and local entities is indicated by the letters of support available at US-75 & I-44 Tulsa County FASTLANE. Any required state and local approvals are expected to be quickly and easily obtained. The Metropolitan Planning Organization (MPO) for the Tulsa area, the Indian Nations Council of Governments (INCOG), has committed to including the project in the Transportation Improvement Program upon receipt of funding, which will then be incorporated by ODOT into the Statewide Transportation Improvement Program. The Tulsa Regional Chamber has also prepared a letter of support for the project, citing improved access to heavy industrial complexes, allowing safer and simpler transport of goods and materials. The project is especially important for the numerous manufacturing companies who use I-44 to ship their heavy haul equipment and products to market, and for the fuel and other refinery-related investments in the area.

The project addresses 2 state planning policies:

Highway Bridge Policy #2

Preserve and improve the condition of highways and bridges

Highway Bridge Policy #5

Provide for a safe, efficient, and effective National Highway System to improve commercial motor vehicle mobility and connectivity

6.3.3 State and Local Planning

The project to reconstruct I-44/US-75 interchange bridges and related improvements on I-44 addresses two state planning policies in particular: Highway Bridge Policy #2 - Preserve and improve the condition of highways and bridges , and Highway Bridge Policy #5- Provide for a safe, efficient, and effective National Highway System to improve commercial motor vehicle mobility and connectivity. The Project is also consistent with the 2015-2040 Oklahoma Long Range Transportation Plan (LRTP); the State Transportation Improvement Program is a financially constrained document and will be amended when funding is made available (see INCOG letter of assurance in US-75 & I-44 Tulsa County FASTLANE Letters of Support). The Oklahoma DOT 2015-2040 LRTP, adopted in August 2015, is the primary policy document for these types of projects.

6.3.4 Assessment of Project Risks and Mitigation Strategies

ODOT staff have presented the project concept to the Oklahoma Division of FHWA, and communication and coordination is ongoing. Main project risks identified include possible risk of contamination due to the primarily industrial land use along the corridor. Several sites that store hazardous materials are located in the corridor, including a metal fabrication shop, a machine repair location, and a bottling plant. The Oklahoma Department of Transportation will submit timely and informative status reports as required, and will maintain current System for Award Management (SAM) information.

7.0 SELECTION CRITERIA

The I-44/US-75 Improvement project meets several of the merit outcomes highlighted in the FASTLANE program. In general,

1. *Improves truck freight corridor in West Tulsa*
2. *Updates Eisenhower-era (and oldest portion of) Interstate in Oklahoma*
3. *Collaborates with City of Tulsa and MPO transportation priorities*

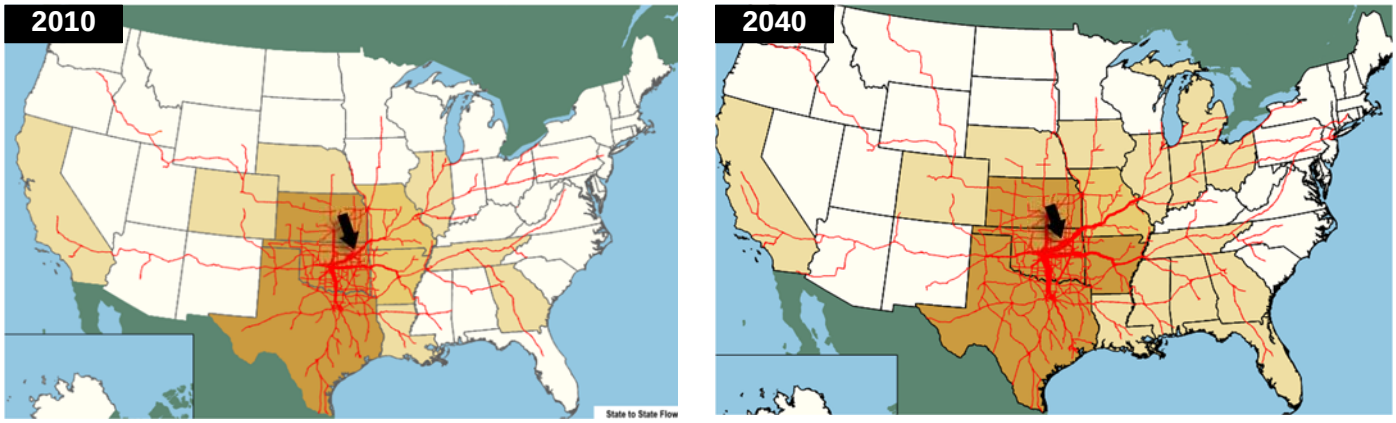
A brief summary of each of the merit outcomes that the project meets are described in the following sections.

7.1 Merit Criteria

7.1.1 Economic Outcomes

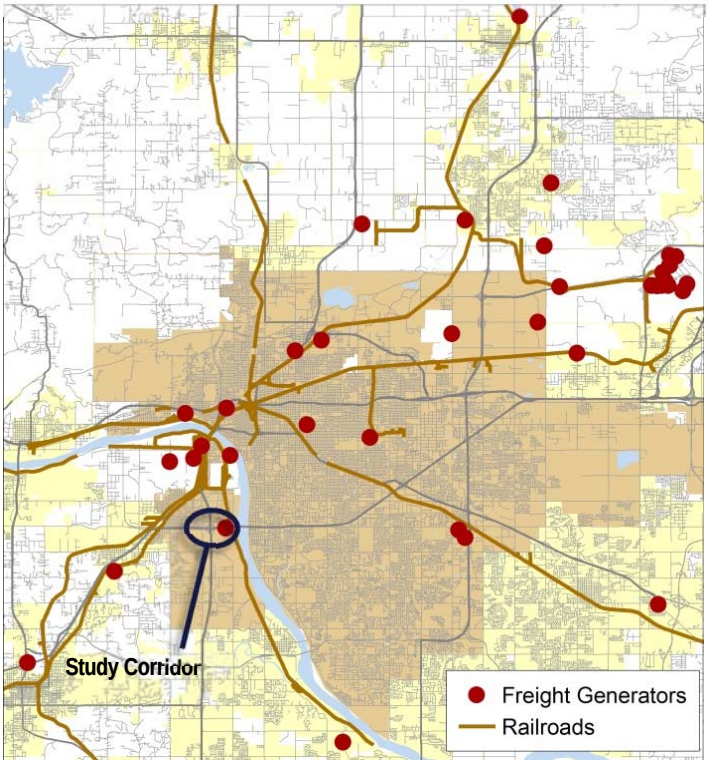
Efficiency/Reliability of the Surface Transportation System: Figure 6 illustrates that I-44, and the project corridor in particular, plays a key role in the freight network of Oklahoma and the south central U.S. I-44 is part of the national Primary Highway Freight System, and (as discussed in the Mobility section following) improvements to this corridor will reduce congestion on this key freight corridor – which contributes toward the region's and nation's economic competitiveness. Oklahoma freight flows are primarily *through* the state; and thus improvements on this segment of Interstate will benefit shipping and goods movement effort nationwide.

FIGURE 6: Major Truck Flows To, From, and Within Oklahoma



Improving Connectivity between Freight Modes of Transportation: As **Figure 7** indicates, Tulsa is home to a number of significant freight-generating businesses. Several, including a major oil refinery, are located within just a few miles of the project corridor – and for many, the corridor is a significant route to and from the south and west. As the figure also indicates, many of these generators are along rail lines, and in some cases, intermodal freight transfers occur between rail and truck. The Tulsa Port of Catoosa, located to the east and north of the project corridor, supports barge, rail, and truck freight modes. Improvements to the project corridor support local, regional and national freight movements to and from these vital centers.

FIGURE 7:
Major Freight Generators and Rail Lines



Impact of Population Growth: **Table 7** summarizes forecasted population growth trends for the region and study area, which are in the 25- to 30-percent range between 2010 and 2040. These population growth assumptions underlie the travel-demand forecasting that supports the need for the project. **To accommodate the anticipated population growth, improvements must be made at the I-44/US-75 interchange**.

TABLE 7: Forecasted Population Growth Trends

	2010	2040	% Increase
Tulsa MSA	937,478	1,195,666	27.5%
Tulsa County	605,127	754,740	24.7%
Project Area	8,489	10,967	29.1%

The Project is anticipated to generate substantial economic outcomes as represented by nearly $368.3 million (discounted at 7%) in travel time savings for private and commercial drivers along the corridor.

7.1.2 Mobility Outcomes

State of Good Repair: The project will replace five bridges (listed in **Table 8**) all of which are over 50-years old and have sufficiency ratings of 64 or less. **The US-75 bridges over I-44 have the poorest ratings and are structurally deficient, while the remaining three bridges are functionally obsolete**. The bridge inspection reports are available in the US-75 & I-44 Tulsa County FASTLANE Reports and Technical Information. Replacing these bridges will not only address these issues, but will provide renewed infrastructure with improved geometrics that will benefit traffic operations, safety, and maintenance for decades to come.

TABLE 8: Bridge Condition

Bridge	Age (Years)	Sufficiency Rating
US-75 NB over I-44	53	49.4 | Structurally Deficient
US-75 SB over I-44	53	50.4 | Structurally Deficient
Union Ave over I-44	51	62.8 | Functionally Obsolete
I-44 EB over 33rd W Ave	64	63.7 | Functionally Obsolete
I-44 WB over 33rd W Ave	64	63.6 | Functionally Obsolete

Reduction of Highway Congestion and Bottlenecks: The project will increase the base capacity of I-44 by one lane in each direction, and will thus address a substantial portion of the last remaining four-lane segment of I-44 in the Tulsa region. More broadly, this project is a key first step to facilitate the ultimate reconstruction of the I-44/US-75 interchange, which will address both east-west and north-south congestion bottlenecks and provide major regional mobility benefits for both passengers and freight. The **corridor carries approximately 84,000 vehicles per day, over 10,000 of which are trucks**, and, as **Figure 6** previously illustrated, plays a key and growing role in carrying freight within Oklahoma and the southern central U.S.

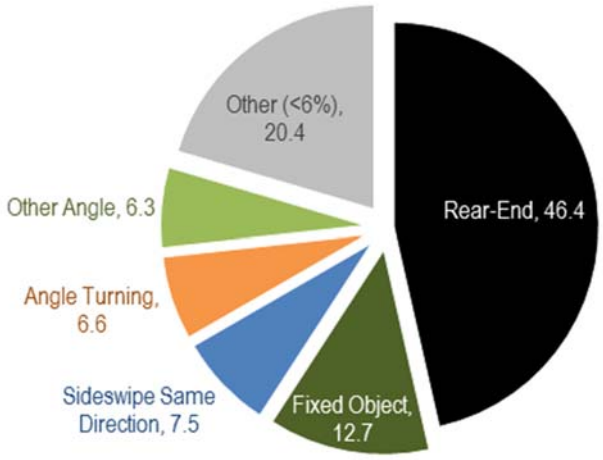
The corridor carries approximately 84,000 vehicles per day, over 10,000 of which are trucks.

7.1.3 Safety Outcomes

Crash rates along the study corridor are notably higher than the statewide average for similar facilities, as shown in **Figure 8.** The **overall crash rate is just over 4 times the statewide average, and the fatal crash rate is over 3.5 times the statewide average**.

FIGURE 8: Selected Corridor Crash Statistics

Severity	Crash Rate(2010-2014) Within the Project Limits	Statewide Average	Ratio to Statewide Average
Visible Injury	66.8	11.37	5.88
Fatal	2.3	0.63	3.65
All Crashes	254.7	63.55	4.01



As **Figure 8** illustrates, the most prevalent type of crash on the corridor is the rear-end collision, accounting for nearly half of all crashes. In addition, nearly half of all crashes on the corridor occurred during the peak commute periods, when congestion is at its maximum. The I-44/US-75 improvement project, and the ultimate full interchange reconstruction of which this is an initial element, is anticipated to relieve congestion near and through the interchange – an improvement which is known to correlate to reduced incidence of rear-end collisions.

The second most prevalent crash type on the corridor, accounting for one-eighth of the total crashes, relates to collisions with fixed objects. More than half of these collisions involved injuries, and one was fatal. As part of the modernization of the corridor, the facility will be designed to current standards – with new median barrier protecting both directions (median barrier exists only for westbound traffic today), pier protection on I-44 under the US-75 and Union Avenue bridges, new bridge rail on all the replaced bridges, new barrier wall and impact attenuators on bridge approaches, and new barrier wall on bridge departures. In addition, it is anticipated that concrete barriers will be

The corridor's overall crash rate is just over 4 times the statewide average, and the fatal crash rate is over 3.5 times the statewide average.

installed rather than guardrail and/or cable barrier. All of these improvements will contribute to a safer facility – in some instances protecting fixed objects (piers) that are currently unprotected, and in some instances mitigating the severity of fixed-object collisions (through strategies such as impact attenuation and modern barrier design).

In general, the modern design standards to be applied to the project are expected to result in a safer system, and should improve safety performance related to many other collision types as well.

HollyFrontier's Tulsa refinery, serving the Mid-Continent Region of the U.S. with a crude oil capacity of 125,000 barrels per day, sits less than two miles from the project corridor, (see **Figure 9**). A portion of the refinery's product is shipped by trucks. More generally, **I-44 is an important link in Oklahoma's freight network, and 7.5 percent of the vehicles involved in crashes within the corridor are heavy commercial vehicles.** Thus, the safety benefits described above will also accrue to regional and national freight movements as well.

The Project is anticipated to generate substantial safety outcomes as represented by nearly $88.8 million (discounted at 7%) in accident cost reduction.

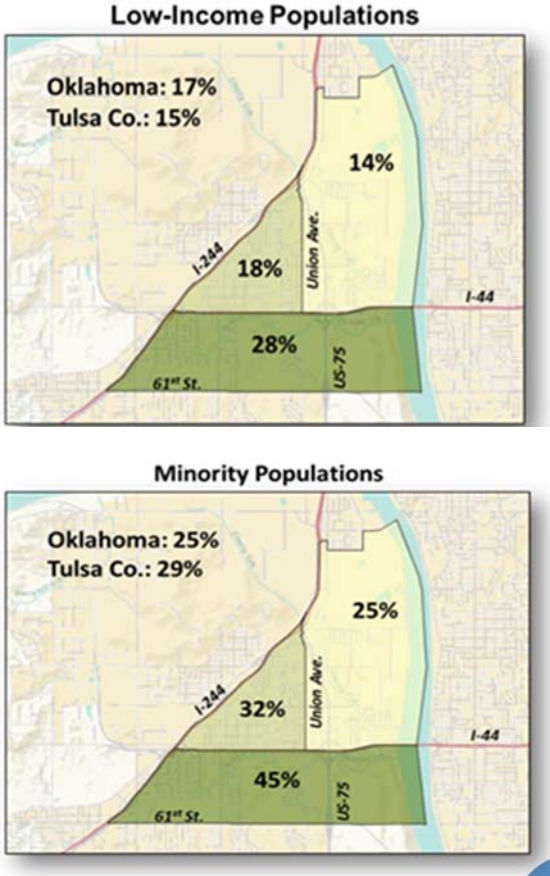
FIGURE 9:
HollyFrontier's Tulsa Refinery

7.1.4 Community and Environmental Outcomes

Enhance Personal Mobility and Accessibility: **Figure 10**, illustrates key population groups by Census tract near the study corridor. As the maps show, there are especially high concentrations of low-income and minority populations in the tract south of the project corridor. Reducing congestion within the project corridor will improve access for these traditionally underserved populations.

Community Input: This project has been in the public eye since at least 2002, when it was a major component of the US-75 Environmental Assessment (EA) from State Highway 67 to I-44. That document described a preferred alternative for the US-75 /I-44 interchange that would include directional ramps while preserving local established traffic patterns to the extent possible and minimizing local disruption. The EA, and its predecessor, Major Investment Study (MIS), included coordination with tribal, local, state and federal agencies; as well as meetings with the public and City officials. A public hearing was held, and comments received from the public were addressed in the EA.

FIGURE 10: Key Demographic Groups



The Project is anticipated to generate substantial community and environmental outcomes as represented by more than $4.5 (discounted at 7%) in emissions cost reduction.

7.2 Other Review Criteria

7.2.1 Partnership and Innovation

The I-44/US-75 Improvements project is a partnership between ODOT, the City of Tulsa, INCOG, and local parties. ODOT has a consistent demonstrated history of executing significantly large and complex projects in coordination with these partners addressing all aspects of federal requirements. Recently completed projects include the American Recovery and Reinvestment (ARRA) effort to reconstruct the Inner Dispersal Loop around Downtown Tulsa ($80 million), and execution of a complex TIGER first round project involving dual bridges on I-244 over the Arkansas River ($120 million).

One exemplary coordination and partnership effort involved a complex project on I-44 east of the currently proposed project, representing an investment of over $300 million dollars spanning eight years and including five interchanges. The project was completed on schedule and within budget, without the need for major interstate closures. The project involved several neighborhood meetings, development of concepts related to one-way and two-way frontage roads affecting neighborhoods around the interstate, the introduction of "Texas turnaround" traffic-flow concepts, and construction phasing that avoided major interruptions in traffic flow. The success of this project demonstrates that ODOT and its partners have the tools to complete the proposed FASTLANE project.

7.2.2 Cost Share

ODOT is requesting $63,829,200 in NSFHP (FASTLANE grant) funds for this project. ODOT is matching these requested funds with $21,845,610 in state funds, or 20% of the total future project cost.